

AMENDMENTS TO THE CLAIMS

The following listing of claims will replace all prior versions and listings of claims in the application.

LISTING OF CLAIMS

1. (Currently amended) A data driver for driving data lines of an electro-optic device, comprising:

a state setting register, ~~to which are input~~ that stores setting data for one of multiple states, ~~which include the multiple states including~~ a display ON state, ~~in which where~~ drive power is generated and display operation is conducted using drive signals based on display data, a display OFF state, ~~in which where the~~ drive power is generated but display operation using the drive signals is not conducted, and a sleep state, ~~in which where the~~ drive power is not generated and display operation using the drive signals is not conducted;

a state setting circuit, ~~which effects~~ that outputs drive control signals based on the multiple states, where the state setting circuit controls transition to any of the multiple states in accordance with the setting data ~~input to~~ stored in the state setting register ~~and outputs a drive control signal associated with a state of a transition destination;~~ and

a drive circuit, ~~which~~ that drives the data lines with the drive power based on the drive control signals [[;]]

wherein the state setting circuit ~~effects~~ controls transition from the sleep state to the display OFF state when a first setting data are input to is received by the state setting register during the sleep state, and

wherein the state setting circuit effects~~controls~~ transition from the sleep state to the display OFF state, ~~then effects~~ and then controls transition from the display OFF state to the display ON state when a second setting data are input to ~~is received by~~ the state setting register and ~~is followed by input of the first setting data~~ is then received by ~~to the state setting register during the sleep state.~~

2. (Currently amended) The data driver according to claim 1, further comprising:

a counter, ~~which~~ that counts frame pulses having a scan cycle of scan lines of the electro-optic device,

wherein the state setting circuit controls transition from the display OFF state to the display ON state when a count value of the counter reaches a predetermined value, and wherein the counter starts counting after the state setting circuit controls transition from the sleep state to the display OFF state based on the second setting data is input to the state setting register and is followed by input of the first setting data being received by ~~to the state setting register during the sleep state if the state setting circuit effects transition from the sleep state to the display OFF state, then starts the counting by the counter, and the count value reaches a predetermined number, the state setting circuit effects transition from the display OFF state to the display ON state.~~

3. (Currently amended) The data driver according to claim 2, wherein the predetermined number is a product of f and Y , wherein $[[,]]$

f is a frequency in Hertz of the frame pulses, and

Y is a period in milliseconds for a power circuit for generating the drive power to stabilize after starting up, or for an oscillating circuit that outputs a clock for generating the frame pulses to stabilize after starting oscillation operation.

4. (Currently amended) A data driver for driving data lines of an electro-optic device, comprising:

a state setting register, ~~to which are input~~ that stores setting data for one of multiple states, ~~which include the multiple states including~~ a display ON state, ~~in which where~~ drive power is generated and display operation is conducted using drive signals based on display data, a display OFF state, ~~in which where the~~ drive power is generated but display operation using the drive signals is not conducted, and a sleep state, ~~in which where the~~ drive power is ~~unknown~~ not generated and display operation using the drive signals is not conducted;

a state setting circuit, ~~which effects~~ that outputs drive control signals based on the multiple states, wherein the state setting circuit controls transition to any of the multiple states in accordance with the setting data ~~input to~~ stored in the state setting register ~~and outputs a drive control signal associated with a state of a transition destination;~~ and

a drive circuit, ~~which~~ that drives the data lines with the drive power based on the drive control signals $_{,[[;]]}$

wherein the state setting circuit ~~effects~~ controls transition from the sleep state to the display OFF state when a first setting data are input to ~~is received by~~ the state setting register during the sleep state, and the state setting circuit ~~effects~~ controls transition from the sleep state to the display OFF state, ~~then effects~~ and then controls transition from the display OFF state to the display ON state when a third setting data is received by ~~are input to~~ the state setting register during the sleep state.

5. (Currently amended) The data driver according to claim 4,

wherein the state setting circuit ~~effects~~ controls transition from the display OFF state to the sleep state when a fourth setting data is input to ~~received by~~ the state setting register during the display OFF state, and the state setting circuit ~~effects~~ controls transition from the display ON state to the display OFF state, ~~then effects~~ and then controls transition from the display OFF state to the sleep state when the fourth setting data ~~are input to~~ is received by the state setting register during the display ON state.

6. (Currently amended) A data driver for driving data lines of an electro-optic device, comprising:

a state setting register, ~~to which are input~~ that stores setting data for one of multiple states, ~~which include~~ the multiple states including a display ON state, ~~in which~~ where drive power is generated and display operation is conducted using drive signals based on display data, a display OFF state, ~~in which~~ where the drive power is generated but display operation using the drive signals is not conducted, and a sleep state, ~~in which~~ where the drive power is not generated and display operation using the drive signals is not conducted;

a state setting circuit, ~~which effects~~ that outputs a drive control signal based on the multiple states, wherein the state setting circuit controls transition to any of the multiple states in accordance with the setting data input to stored in the state setting register and outputs a drive control signal associated with a state of a transition destination; and

a drive circuit, ~~which~~ that drives the data lines with the drive power based on the drive control signals [[;]]

wherein the state setting circuit ~~effects~~ controls transition from the display OFF state to the sleep state when a fourth setting data are input to is received by the state setting register during the display OFF state, and the state setting circuit effects controls transition from the display ON state to the display OFF state, ~~then effects and then controls~~ transition from the display OFF state to the sleep state when the fourth setting data are input to is received by the state setting register during the display ON state.

7. (Currently amended) An electro-optic device, comprising:

a plurality of scan lines;

a plurality of data lines;

a plurality of pixels, ~~which~~ that are coupled to the plurality of scan lines and the plurality of data lines;

a scan driver for scanning the plurality of scan lines; and

the data driver according to claim 1 for driving the plurality of data lines.

8. (Currently amended) An electro-optic device, comprising:

a display panel, ~~which~~ that includes a plurality of scan lines, a plurality of data lines, and a plurality of pixels coupled to the plurality of scan lines and the plurality of data lines;

a scan driver for scanning the plurality of scan lines; and

the data driver according to claim 1 for driving the plurality of data lines.

9. (Currently amended) The data driver according to claim 1,

wherein the state setting circuit ~~effects~~ controls transition from the display OFF state to the sleep state when a fourth setting data is input to is received by the state setting register during the display OFF state, and the state setting circuit ~~effects~~ controls transition from the display ON state to the display OFF state, ~~then effects and~~ then controls transition from the display OFF state to the sleep state when the fourth setting data ~~are input to~~ is received by the state setting register during the display ON state.